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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/640,367	08/13/2003	John A. Reeve	MSH - 245	8435

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EXAMINER

TUROC, DAVID P

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/640,367

Applicant(s)

REEVE, JOHN A.

Examiner

David Turocy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/13/03
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____

DETAILED ACTION

Claim Objections

1. Claims 7 and 8 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 7 and 8 claim the addition of a "treatment enhancer". Treatment enhancers are defined in the specification as being a material selected from the group consisting of materials containing multi-silanol groups, siliconates, silicates, and a combination thereof (page 3, lines 27-30). Parent claims 1 and 2 already require such a limitation and therefore they are not limited by the requirements of claims 7 and 8.
2. Claims 2 and 3 are objected to because of the following informalities:
 - a. Claim 2, line 3, "a at" appears to be a typographical error
 - b. Claim 3, line 3, "a at" appears to be a typographical errorAppropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 10-19, 21-25, 27-31, 33-39, 41-46, and 48-53 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for spraying

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of two subsequent silicon containing materials, does not reasonably provide enablement for the claimed limitations of the "silicon-containing material" from part (III). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. Claims 10-19, 21-25, 27-31, 33-39, 41-46, and 48-53 further limits "silicon-containing material" from part (III) of the independent claim, however, such limitations should rather be limiting the aqueous solution from part (II) of the independent claim, in accordance to the teachings of the specification (examples). For the purposes of applying prior art, claims 10-19, 21-25, 27-31, 33-39, 41-46, and 48-53 are deemed to be limiting to part (II) of the parents claims from which they currently depend.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-3, both parts II and III, are indefinite because the claims recite contacting a substrate with a material "capable of reacting at or near the substrate surface". It is not clear with what the material should be capable of reacting or whether or not the reacting of the material is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 10-34, 36-38, 40-41, 43-45, 47-48, 50-52, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Publication 2002/0048679 by Lohmer et al ("Lohmer") in view of US Patent 4632848 by Gosset et al ("Gosset").

Claims 1-3: Lohmer teaches of a method for treating a solid substrate comprising reacting the substrate with a reactive silane and then reacting the treated surface with a hydrophobic compound that ensures water-repellency (Abstract, Paragraph 0053). Lohmer discloses that the reactive compounds can be applied by spraying, brushing, or immersing (paragraph 0049). Lohmer fails to disclose reacting the substrate with a silicon containing material selected from the group consisting of multi-silanol, siliconates, silicates, and any combination there of.

Claims 10-15: Lohmer discloses a reactive silane as an organofunctional silane (Paragraph 0014-0019).

Claims 16, 21-22, 27-28, and 33: Lohmer discloses a reactive silane as a trimethoxysilane (Paragraph 0021).

Claims 17-19, 23-25, and 29-31: Lohmer discloses a reactive silane comprising an aminoorganofunctional silane with a general formula that encompasses the general formula as claimed (Paragraphs 0014-0019).

Claims 20,26,and 32: Lohmer discloses a substrate of polyurethane, polyethylene, and other hard surfaces (Paragraph 0059-0063).

Claims 36-38, 43-45, 50-52: Lohmer discloses using a reactive silane comprising a disilane with a $-\text{SiC}_y\text{Si}-$ linkage when selecting $\text{R}^4 = -\text{Si}(\text{CH}_3)_3$ and $\text{R}^3 = \text{C}_1\text{-C}_{12}$ alkyl radical (Paragraphs 0014-0019).

Claims 34, 41, and 48: Lohmer discloses a reactive silane as an oligomer siloxane (paragraph 0027).

Claims 40,47,and 54: Lohmer discloses a solid substrate with the coating treatment as above (Abstract).

However, Gosset, teaching of forming a protective coating on a surface, discloses using a hydrophobic compound, potassium silicate, to improve the resistance to water (Column 4, lines 10-18).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify Lohmer to use the hydrophobic compound suggested by Gosset to provide a desirable water repellent coating because Lohmer teaches applying a hydrophobic compound after a reactive silicon provides a permanent hydrophobic coating and Gosset teaches a hydrophobic compound which improves a coatings resistance to water.

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Gosset in view of Lohmer fail to teach of a specified time between coatings. The examiner acknowledges the applicants showing that "essentially, immediately" is in meant to be within ½ hour of application. However, it is the examiners position that such a showing lacks criticality and that it is within the skill of one ordinary skill in the art at the time of the invention to determine the suitable time period between the two subsequent coatings to properly allow for a reaction to take place and thus provide a water repellent coating. Therefore, it would have been obvious to one having ordinary skill in the art to have determined the optimum time between to subsequent reactions through routine experimentation in the absence of a showing of criticality. See *In re Aller*, USPQ 233 (CCPA 1955).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent 5250106 by Roth et al and US Patent 5051129 by Cuthbert et al discloses a process for applying silicon containing materials to masonry to make water repellent. US Patent 5562761 by Dirschl et al and US Patent 4282366 by Eudy teaches of providing silicon-containing materials to a substrate for antimicrobial effects.

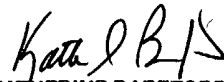
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Turocy whose telephone number is (571) 272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Turocy
AU 1762


KATHERINE BAREFORD
PRIMARY EXAMINER